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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,563	07/02/2003	Zongwen Liao	T-1239	5482

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EXAMINER

SAYALA, CHHAYA D

ART UNIT	PAPER NUMBER
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1761

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/613,563

Applicant(s)

LIAO ET AL

Examiner

C. SAYALA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the claims, "acts" should be changed to - - steps- - .

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 5, 7-10, 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Fischbein et al. (US Patent 5360465).

The patent teaches grinding ammonium phosphate to a fine powder, prewetted, and mixing it with lignosulfonate. The mixture is then granulated, dried and ground to the required size. See col. 3, lines 15+. Note the concentration of lignosulfonate at col. 4, lines 26.

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3. Claims 1, 3, 5, 7-10, 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Detroit (US Patent 4846871 or 5041153).

Detroit teaches grinding ammonium phosphate and adding up to 5 wt% lignosulfonate to the fertilizer solution and then prilling the mixture. See col. 3, lines 10-70 in '153. (The disclosure of '871 is similar).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchholz et al. (US Patent 5360465).

The patentees teach a solution of lignosulfonate upto 5 wt% sprayed onto very fine particles of ammonium phosphate. The patent does not teach grinding the mixture and drying. However such a step would have been obvious to any routineer to grind a fertilizer to the required size and to dry the product for ease of storage and shipping. See col. 3, lines 1-5, claims 1-7 and col. 4, lines 55+.

5. Claims 1, 3, 10, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over CN 1163250.

The zeolite is crushed and compounded with ammonium phosphate and pelletized. It is disclosed as a fertilizer.

6. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohwer US Pub. 2004/0099027 in view of Young (US Patent 3354096), RU 2165912 and Berry et al. (US Patent 4695387).

The publication teaches that to a slurry of zeolite (10%), ammonium phosphate solution is added and dried, see page 2, paragraph [0021] and claims. The patent does not teach adding the phosphate as a powder or that the slurry is granulated.

Young teaches that effective phosphate binding is obtained, at its strongest, at low pH values, between about 3.5 and 6.0 (see col. 4, lines 30-35). The patent teaches a zeolite slurry with ammonium phosphate. The wet mixture is then dried and pelleted (see col. 3, lines 57-62).

RU 2165912 teaches preparing granulating nitrogen phosphorus fertilizer, such as ammonium phosphate by neutralizing ammonia and phosphoric acid with sulfuric acid and applying this to zeolite. The mixture is dried and granulated.

Berry et al. teach that a pH between 4 and 6 is an ideal range of operation for the zeolite adsorbent (see col. 3, lines 48-50).

To form a slurry from powdered ammonium phosphate would have been an obvious expedient because solutions and slurries are generally formed from solids or powders. To incorporate sulfuric acid with the zeolite would also have been obvious

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because, it was generally well known in the art at the time the invention was made that a low pH was very effective for zeolite-phosphate binding and the addition of sulfuric acid was also known. Amounts would have been obvious to one of ordinary skill in the art from those shown by the references. See Rohwer et al. in particular.


### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. SAYALA whose telephone number is 571-272-1405.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
C. SAYALA  
Primary Examiner  
Group 1700.

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